

day, both singly or in small parties of three or four, associated with warblers and other species common in the locality. Specimens were examined by members of the Biological Survey.

**Sialia sialis.** BLUEBIRD.—The experience of Curator Ferril and the writer would indicate that the Bluebird is not uncommon in eastern Colorado, from the northern boundary of the State to as far south at least as the Arkansas River. It was observed by Mr. Ferril at Julesburg, Sedgwick Co., May 21, 1907; it also has been seen by Mr. W. E. Wolfe and the writer at Wray, Yuma Co., in May. Mr. Ferril took two males and saw one other at Kit Carson, Cheyenne Co., May 26, 1907. The writer found it breeding at Holly, Prowers Co., May 22, and took a pair at Prowers, Bent Co., May 25, 1907. The writer observed it at Denver years ago and there is a female in the collection taken by the Curator at Arvada, Jefferson Co., May 27, 1902.

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## A PRELIMINARY LIST OF THE BIRDS OF SHANNON AND CARTER COUNTIES, MISSOURI.

BY E. SEYMOUR WOODRUFF.

THE following list of birds is the result of daily observations by the writer, made for the most part in the early morning hours, during a three months' stay in the Ozark Mountains of Shannon and Carter Counties, Missouri, from March 7 to June 8, 1907.

This interesting section of southern Missouri has hitherto been almost completely neglected by ornithologists. It accordingly is deemed advisable to publish a list of the birds observed during this visit, notwithstanding its brevity and the limited opportunity available to me for field work, especially in view of the several interesting records made there. A few of the more interesting 'finds' were recorded by the writer in 'The Auk,' Vol. XXIV, pp. 348, 349, July, 1907, and reference to a number of others is made in Mr. Otto Widmann's excellent work on the birds of Missouri, which has recently appeared.<sup>1</sup>

Because of my short stay and the consequently restricted area

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<sup>1</sup>A Preliminary Catalog of the Birds of Missouri, by Otto Widmann. Trans. Acad. Sci. of St. Louis, Vol. XVII, No. 1, pp. 1-288. Issued Nov. 16, 1907.

covered, the list must necessarily be very incomplete, but in order to increase its value as a local list, I have added at the end as a supplementary list such species as have been noted in Shannon County by Mr. Walter Giles Savage, of Monteer, Missouri, but which were not seen there by me.

Shannon County is about fifty miles north of the Arkansas line and one hundred and ten miles west of the Mississippi River, and Carter County, which adjoins Shannon on the southeast, is thirty miles north of Arkansas and ninety miles west of the Mississippi (see Map); both counties lying on the southeastern slope of the Ozark Mountains of southern Missouri.

The Ozark region is hardly mountainous, as the name might imply, but is an isolated plateau with a maximum altitude of 1700 feet, lying between the Mississippi lowlands on the east and south-east, and the prairie region on the north and west.

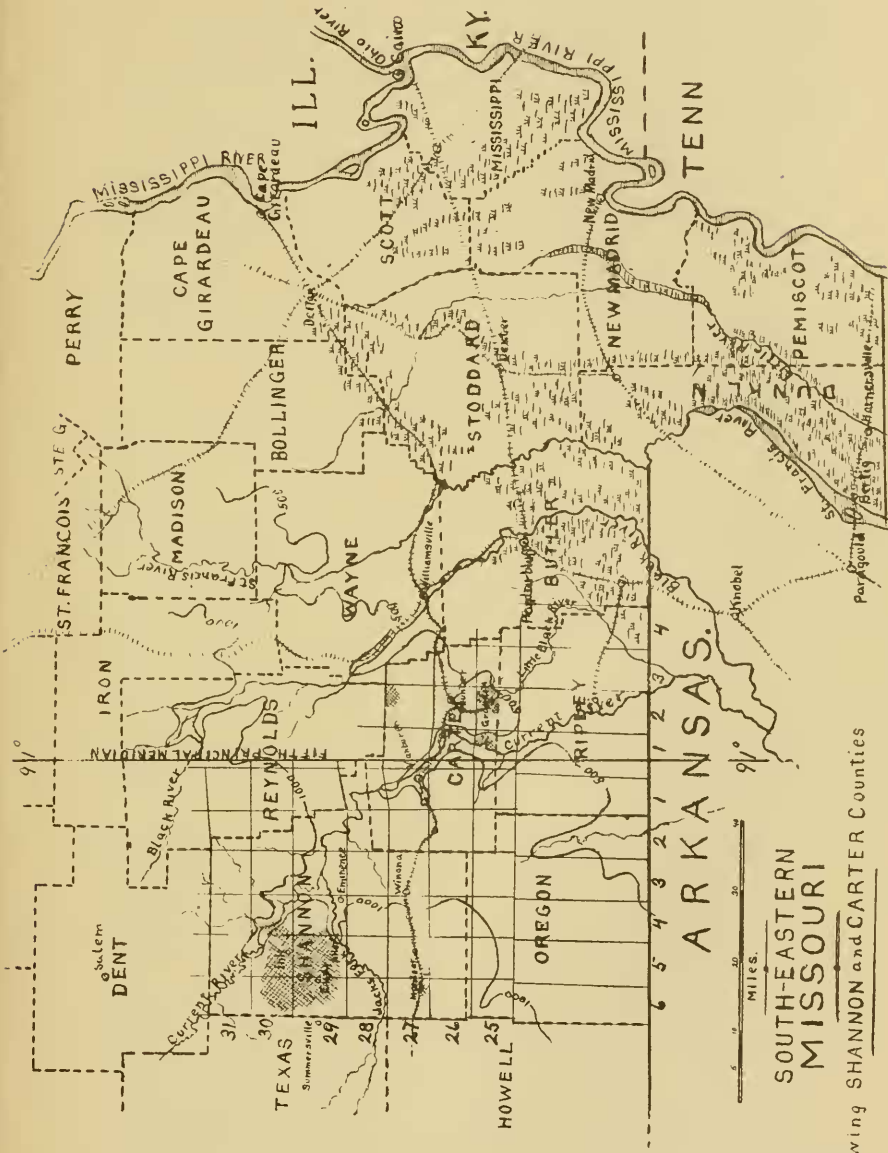
In Shannon County the surface of the plateau, here attaining a height of 1100 feet, has been deeply eroded through the action of streams. These have cut up the country into a maze of ravines, deep valleys and narrow gorges, with bluffs and cliffs of limestone often reaching a height of from 200 to 300 feet.

Two large streams, the Current River and Jack's Fork, cross this county and unite in the east-central part in Township 29, Range 3 West. The Current River enters the county in its north-western corner, flows in a general southeasterly direction, and passing into and through Carter County, finally empties into the Black River in Arkansas. Jack's Fork enters the county on the west and flows northeasterly till it meets and empties into the Current River.

In Carter County the hills, which here have an elevation of about 700 feet, are rolling and much less rugged than in Shannon County.

Originally both counties were covered with an unbroken forest of oaks and short-leaf pine (*Pinus echinata*), but the latter has now been almost wholly lumbered out except in certain portions of Shannon County.

As the work done in Shannon County was for the most part confined to Townships 29 and 30, Range 5 and 6 West (see Map), covering an area of about ninety square miles, a more detailed description of that section may be of interest. The country is extremely rough, with an intricate network of ravines, or "hollows,"



Showing SHANNON and CARTER Counties

as they are locally termed. The ravines and valleys contain water only after very heavy rains, a condition which occurred but twice during my stay, on March 13 and May 5. On these two occasions there had been a heavy down-pour during the preceding night, seemingly with little or no effect at first, but suddenly there was a roar of water and the previously dry bed of Spring Valley, by which we were encamped, was filled with a rushing torrent 4 to 10 feet deep and 30 to 100 feet wide. In about three days the water had disappeared except for occasional small pools. The explanation of this is to be found in the fact that the ground, which is largely of limestone formation, is honey-combed with caves and sinkholes, the latter sometimes a hundred feet deep. Springs appear only to disappear as suddenly a few feet below. The water is of a greenish blue color on account of the great amount of lime which it contains in solution.

At the time of my visit, this section of the county was still clothed with a virgin growth of pine and oak forest, of which the characteristic birds were Turkeys, Red-cockaded Woodpeckers, Bachman's Sparrows, and Pine Warblers. Unfortunately this forest is doomed, for a lumber company was even then building a railroad into the heart of the timber with a view to commencing lumbering operations at once. Forests of pure pine (*Pinus echinata*) and mixed pine and oak cover the tops of the ridges and the plateau, changing to pure stands of various species of oak on the steeper slopes. In the valley bottoms are found a greater variety of trees, including such species as walnut, sycamore, elm, silver maple, box elder, basswood, buckeye, redbud, and others, and small thickets of witchhazel, alder, sassafras and various species of small shrubs. Cardinals, Kentucky Warblers, and Green-crested Flycatchers were the conspicuous birds of these bottoms. The forest is remarkably free from all undergrowth, which is undoubtedly due to the long-continued custom of the settlers of burning over the ground each year, under the erroneous idea that they thereby improve the grazing. Clearings are few and far between and mostly in the narrow bottoms of Black, Casto, and Spring Valleys. The largest is at Eudy, a small settlement on the top of the plateau a mile and a half west of our camp, where an area about three-quarters of a mile square had been cleared and cultivated. Another small settlement, Ink, lay

five miles northeast of camp, and ten miles to the southeast was a smaller one, Alley, situated on the banks of Jack's Fork and on the road to Winona, some twenty-five miles to the southeast.

The settlers raise cattle and hogs, and enough corn to feed their stock during the winter. The latter roam the woods at will, for the only fences in this region are those enclosing the cornfields.

My stay in Shannon County lasted from March 10 to May 15, 1907, inclusive. The spring migration, so far as purely transient species were concerned, had scarcely gotten under way before my arrival, and most if not all the species observed the first few days had probably wintered in the region. The weather was very warm during the last three weeks of March, reaching an average maximum temperature of over 82° F. daily from March 17 to 29 inclusive, and causing the leaves and flowers of many trees and plants to burst their buds. The night of the 18th brought a large flight of birds, mostly of the sparrow family. It grew steadily colder from March 29th till April 19, often freezing at night after April 8, with the result that much of the newly grown foliage was killed. The days were raw, windy and rainy, and, except for two small flights on the nights of April 3 and 13, there was no noticeable movement of birds. On the 19th there came a welcome change in the weather and from then till April 29 it was warm and clear. With the change came the birds, of which there were large flights on April 20 and 21, 24 and 25, culminating on April 28 and 29 in the largest flight of the season. From then till May 8 it was rainy and colder and the migration halted. On May 8 and 9 and again on the 13th large flights occurred, and the transients were still present in large numbers when I left on May 15 for Grandin, Carter County.

April 19, 20 and 21 were spent at Current River near Round Spring (Twp. 30. R. 4 W), about twelve miles northeast of our camp. I found the valley fairly alive with birds and noted several species which did not appear in the region about camp till three or four days later. This valley is probably the main migration route for the county and is occupied by new migrants several days before the same species will be found in the surrounding region.

At Grandin, Carter County, the country differed somewhat in character from that about our camp in Shannon County. The valleys are broader and the hills much less rugged. Practically

all the pine has been cut and much of the oak also, so that considerable young second-growth woods is to be found. It is more thickly settled and consequently there is a greater proportion of cleared and cultivated land. In the river valleys are dense wooded thickets, containing a great variety of trees, bushes, and shrubs.

Grandin is a lumbering village situated in the valley of the Little Black River near the southern border of the county. I had stopped there for two days (March 7 to 9) on my way to camp, and returned May 16 to remain till June 8. The migration was still in full swing on May 16 and 17, but by the 20th it was practically over for the season. Many transients, however, remained till near the end of the month, for the extraordinarily late spring had greatly delayed the arrival and departure of all species.

Because of the late spring, most of the dates of arrival and departure given are probably several, and, in some cases, many days behind the normal dates of arrival and departure in that section. The migration during March was probably nearer normal, for the cold weather did not come on till April.

As Missouri lies on the dividing line between many of the eastern and western forms, it was not surprising that representatives of both forms of certain species and intermediates between them should have been found, and I am very much indebted to Dr. J. A. Allen, Dr. Jonathan Dwight, Jr., and to Mr. H. C. Oberholser for their valuable assistance in determining the subspecific rank of a number of the birds secured there. I am also much indebted to Mr. Walter Giles Savage of Monteer, Shannon Co., Mo., for supplying notes of the occurrence in Shannon County of such species of birds as have come under his observation during the past four years of his residence there, but which, owing to my brief visit and for other obvious reasons, seasonal and otherwise, were not observed by me.

Of the birds here listed, the following were the first to be recorded from Missouri: Red-cockaded Woodpecker,<sup>1</sup> White-winged Crossbill,<sup>2</sup> Western Savanna Sparrow<sup>3</sup>, Western Field Sparrow,<sup>4</sup> Montana Junco,<sup>5</sup> Brewster's Warbler,<sup>6</sup> and Alder Flycatcher.<sup>7</sup> Other records of especial interest were the finding of Bachman's Warbler<sup>8</sup>

<sup>1</sup> Auk, Vol. XXIV, p. 349.

<sup>2</sup> *Ibid.*

<sup>3</sup> Widmann, Prelim. Cat. Birds Mo., p. 176.

<sup>4</sup> *Ibid.*, p. 187.

<sup>5</sup> *Ibid.*, p. 189.

<sup>6</sup> Auk, Vol. XXIV, p. 348.

<sup>7</sup> *Ibid.*, p. 349.

<sup>8</sup> *Ibid.*, p. 348.



and Brown-headed Nuthatch,<sup>1</sup> and the occurrence of Bachman's Sparrow<sup>2</sup> and Pine Warbler<sup>3</sup> as common summer residents in the pine woods of Shannon County.

A total of 189 species and subspecies are recorded in the following lists, including the supplementary list, of which 187 are to be credited to Shannon County; the only two not yet recorded from Shannon County being the Yellow-bellied Flycatcher (*Empidonax flaviventris*) and the Alder Flycatcher (*E. trailii alnorum*), which were secured at Grandin, Carter County. One hundred and three species were noted in Carter County during the three weeks of my stay there (March 7 and 8, and May 16 to June 8 inclusive).

Species whose occurrence was confirmed by the securing of specimens are designated by an asterisk (\*) preceding their names. All records between the dates of March 10 and May 15, inclusive, apply to Shannon County only. Records on March 7 and 8 and from May 16 to June 8, inclusive, apply to Carter County only. Where no locality is given, it is to be understood that the bird in question was found in both counties. Such species as were found by me in one county only are so noted.

(*Anatidæ*.—On the evening of March 10, the night of my arrival in Shannon County, a steady stream of ducks was to be heard passing over us to the north till after midnight. This was the only night during which any were heard.)

\*1. *Querquedula discors*. BLUE-WINGED TEAL.—Several were seen and one male secured on the Current River, April 18, 1907. Shannon Co.

2. *Marila affinis* (sp.?). LESSER SCAUP DUCK (?).—On April 20 two flocks of Scaup Ducks, about thirty in all and probably this species, were seen on the Current River, Shannon Co.

\*3. *Botaurus lentiginosus*. AMERICAN BITTERN.<sup>4</sup>—On April 8, a very raw and windy day, I was surprised to see a bittern in the heart of the pine and oak woods and beside a shallow pool of rain water in a slight depression on the top of the plateau. His presence in such an unusual situation can probably be accounted for by the fact that the two preceding days and nights had been very windy with heavy showers. He appeared to be weak and unwilling to fly, merely flopping across the pool when I approached too near. On my return two or three hours later he had not moved. His stomach was empty. Shannon Co.

<sup>1</sup> Auk, Vol. XXIV, p. 349.

<sup>2</sup> *Ibid.*, p. 349.

<sup>3</sup> *Ibid.*, p. 348.

<sup>4</sup> Widmann, Prelim. Cat. Birds Mo., p. 52.

4. *Ardea herodias*. GREAT BLUE HERON.— On April 15 one was seen beside a pool in the otherwise dry river bed of Spring Valley, and another on April 20 flying over the Current River, Shannon Co.

5. *Butorides virescens*. GREEN HERON.— One was flushed from a tree over a pool of water filling one of the numerous sinkholes which are to be found all through the woods on top of the plateau. Shannon Co.

\*6. *Nycticorax nycticorax naevius*. BLACK-CROWNED NIGHT HERON.— A specimen was secured in Spring Valley, April 23. The only one seen. Shannon Co.

\*7. *Actodromas fuscicollis*. WHITE-RUMPED SANDPIPER.<sup>1</sup>— One was secured from a flock of about twelve on a mudflat in Jack's Fork of Current River, May 15. Shannon Co.

\*8. *Helodromas solitarius*. SOLITARY SANDPIPER.— One was seen May 1 beside a small pool of rain-water in the heart of the woods, and another secured May 13 beside a small pool in the meadows at Eudy. Single individuals were seen on the Current River April 20 and 21. Shannon Co.

9. *Actitis macularia*. SPOTTED SANDPIPER.— A single specimen was seen April 21 on Current River, Shannon Co.

\*10. *Colinus virginianus*. BOBWHITE.— These birds were very common and were found not only in the valley bottoms in or near clearings, but also in the heart of the woods at some distance from any of the few and small clearings.

11. *Bonasa umbellus*. RUFFED GROUSE.— One was heard drumming on the bluffs above Current River, Shannon Co., April 19, 20 and 21, but with this exception none was seen or heard throughout my stay in Shannon or Carter Counties. This was not surprising, owing to the lack of suitable brush cover. The annual burning over of the floor of the forests is given by Mr. Widmann<sup>2</sup> as one of the theories to account for the disappearance of the Ruffed Grouse from the Ozarks, where they were formerly numerous. He says: "As this custom has been followed for fifty years, it has succeeded in extirpating a large number of plants, some of which may formerly have been helpful or needed in making the region a desirable abode for the Ruffed Grouse."

\*12. *Meleagris gallopavo silvestris*. WILD TURKEY.— The Wild Turkey is still a comparatively common though extremely shy bird in Shannon County. On March 18 a flock of seven was seen, but as a rule they were single or in pairs. The cocks began "gobbling" the latter part of March, and as many as four gobblers were heard at the same time. On April 16 I secured a hen turkey in whose oviduct was found a fully developed egg, shell and all. In her crop was a small lizard. On May 13 one of our party flushed a turkey from a nest containing ten eggs, and on returning three or four days later the eggs were found to be cold and evidently deserted.

<sup>1</sup> Widmann, Prelim. Cat. Birds Mo., p. 68.

<sup>2</sup> *Ibid.*, p. 81.



\*13. *Zenaidura carolinensis*. MOURNING DOVE.—Common about the cultivated fields at Eudy, Shannon Co. First seen March 17. Common at Grandin, Carter County.

14. *Cathartes aura septentrionalis*. TURKEY VULTURE.—Fairly common. Two eggs nearly ready to hatch were found May 13 in a small cave, four feet deep, in Shannon Co.

15. *Catharista urubu*. BLACK VULTURE.<sup>1</sup>—Not common. Though I was confident that I saw this species a number of times, it was only once positively identified—April 29, Shannon Co.

\*16. *Accipiter velox*. SHARP-SHINNED HAWK.—Not common. Seen only four times (March 23, 30; April 21 and May 2). On May 2 I secured a female containing three nearly developed eggs in her ovaries, so they must breed here.<sup>2</sup> Shannon Co.

17. *Buteo borealis*. RED-TAILED HAWK.—Fairly common.

\*18. *Buteo borealis krideri*. KRIDER'S HAWK.—On April 10 I secured an immature male which has since been identified by Mr. H. C. Oberholser as referable to this subspecies. Shannon Co.

19. *Buteo platypterus*. BROAD-WINGED HAWK.—Not common. A nest with three downy young a day or two old was found May 25 in an oak in the valley of the Little Black River near Grandin, Carter Co.

20. *Cerchneis sparveria*. AMERICAN SPARROW HAWK.—Fairly common.

21. *Pandion haliaëtus carolinensis*. AMERICAN OSPREY.—One seen over Current River, Shannon Co., April 21.

22. *Syrnium varium*. BARRED OWL.—A large owl, probably this species, was hooting about our camp in Shannon Co., on the night of April 21. (Mr. Savage informs me that he has heard this owl occasionally in this county.)

23. *Coccyzus americanus*. YELLOW-BILLED CUCKOO.—Fairly common. Two nests containing one egg each were found May 17 and 21 at Grandin.

24. *Coccyzus erythrophthalmus*. BLACK-BILLED CUCKOO.—Rare. None seen in Shannon Co. The only specimen positively identified was in Carter Co., May 23. (See supplementary list.)

25. *Ceryle alcyon*. KINGFISHER.—Fairly common.

\*26. *Dryobates villosus*. HAIRY WOODPECKER.—Common in Shannon Co. None were seen at Grandin, Carter Co. The ovaries of a female secured March 27 contained two well developed ovules, so nesting had probably begun.

(One of the most noticeable things about the bird life in Shannon Co., was the great abundance of Woodpeckers of all kinds—eight species in all. This was especially marked during March before nesting had begun.)

\*27. *Dryobates pubescens medianus*. DOWNY WOODPECKER.—Very common.

<sup>1</sup> Widmann, Prelim. Cat. Birds Mo., p. 88.

<sup>2</sup> *Ibid.*, p. 92.

\*28. **Dryobates borealis.** RED-COCKADED WOODPECKER.— I was fortunate enough to be the first to introduce this bird<sup>1</sup> to the list of the birds of Missouri.<sup>2</sup> At first they seemed to be rare, for up to April 10 I had only found them twice — three together on March 15 and two on March 30. But from April 10 on till the end of my stay in Shannon Co. (May 15) I saw them constantly. The female of a pair secured April 19 (on which day I saw four pairs) was in breeding condition, and a male secured on May 12 showed by the thin and featherless condition of the skin on his breast and belly that he was sharing with his mate in the duties of incubation.

I met them again in the virgin pine woods near the northern border of Carter Co. (Twp. 27, R. 2 East) on May 29, but about Grandin, fourteen miles to the south, where all the pine had been cut, none were found. As they seemed to confine themselves to the pine woods, I believe they will be driven out of this region as fast as these woods are cut off.

\*29. **Sphyrapicus varius.** YELLOW-BELLIED SAPSUCKER.— One was seen at Grandin March 8. They were abundant in Shannon Co. from March 21 to April 8, after which only a few were seen daily till April 25, and the last on May 9. This last record is considered suspiciously late by Mr. Widmann,<sup>3</sup> and is possibly that of a breeding bird.

The sapsuckers were very partial to the sap (?) of witch-hazel, which grew abundantly in the bottoms of the larger ravines, and numbers of them were to be seen making rows of punctures on the stems of this shrub from six inches to two feet from the ground.

\*30. **Phlœotomus pileatus abieticola.** NORTHERN PILEATED WOODPECKER.— The two specimens secured on April 13 and May 13, both males, were identified by Mr. H. C. Oberholser as belonging to this subspecies, though the southern form might be expected to occur there.

This woodpecker was fairly common in Shannon Co., but very shy and difficult to approach within gun range. The male secured May 13 proved by the condition of the skin on his breast and belly that he also was sharing with his mate in the duties of incubation.

None was seen at Grandin, but it doubtless occurs in the heavier woods.

\*31. **Melanerpes erythrocephalus.** RED-HEADED WOODPECKER.— An abundant summer resident, and probably a rare winter resident. One specimen was seen March 10 and a pair March 30. These had probably wintered, for no more were seen in the region about our camp in Shannon Co. till April 26, on which date they were found in large numbers. But on April 20 I found them to be common in the valley of the Current River, some ten miles to the northeast of camp. These birds were probably the vanguard of the migrants which were pushing up the valley and which did not penetrate back into the forest until six days later. Common at Grandin.

<sup>1</sup> Auk, Vol. XXIV, p. 349.

<sup>2</sup> Widmann, Prelim. Cat. Birds Mo., p. 121.

<sup>3</sup> *Ibid.*, p. 123.

\*32. *Centurus carolinus*. RED-BELLIED WOODPECKER.— A fairly common resident.

\*33. *Colaptes auratus luteus*. NORTHERN FLICKER.— Common. They were very abundant in Shannon Co. from March 19 to 24, when the main body of transients passed through.

34. *Caprimulgus carolinensis*. CHUCK-WILLS-WIDOW.— None were positively identified in Shannon Co., though on May 12 I flushed a bird which from its large size I suspected to be this species. (See supplementary list.) At Grandin, Carter Co., they were evidently fairly common, for on the nights of May 21, 22 and 23 several could be heard at the same time. It was easy to distinguish them from the Whip-poor-will, for both species could be heard at one time; the one in the valley bottom and the other in the slopes above.

\*35. *Caprimulgus vociferus*. WHIP-POOR-WILL.— Common. The first specimen was seen and secured April 6.

36. *Chordeiles virginianus*. NIGHTHAWK.— Not very common. First one seen May 8.

37. *Chætura pelagica*. CHIMNEY SWIFT.— Because of the extensive woods and of the fact that chimneys were few and far between in the vicinity of our camp in Shannon Co., swifts were rarely seen. The first one noticed was on May 10.

In Carter Co. they were common.

\*38. *Trochilus colubris*. RUBY-THROATED HUMMINGBIRD.— The first hummingbird appeared April 28, and they became common on and after May 4.

39. *Tyrannus tyrannus*. KINGBIRD.— Lack of suitable country doubtless accounts for the rarity of the Kingbird in this section of Shannon Co. They were met with only twice — April 28 and May 4 — and on both occasions were in the meadows at Eudy.

At Grandin they were fairly common.

40. *Myiarchus crinitus*. CRESTED FLYCATCHER.— Common. Arrived in Shannon Co. April 29.

41. *Sayornis phoebe*. PHOEBE.— Common. The Phoebe was already present on my arrival at Grandin on March 8, and in Shannon Co., March 10. On March 16 I saw a Phoebe building a nearly completed nest under an overhanging limestone cliff. Several nests were found in like situations in the latter part of March.

42. *Myiochanes virens*. WOOD PEWEE. Common, arriving in Shannon Co., April 29.

\*43. *Empidonax flaviventris*. YELLOW-BELLIED FLYCATCHER.<sup>1</sup>— The only specimen seen was one which I secured at Grandin, Carter Co., May 16.

\*44. *Empidonax virescens*. GREEN-CRESTED FLYCATCHER.— Common. First seen in Shannon Co. April 29 and became common after May 8.

\*45. *Empidonax trailli alnorum*. ALDER FLYCATCHER.<sup>2, 3</sup> — On June

<sup>1</sup> Widmann, Prelim. Cat. Birds Mo., p. 140.

<sup>2</sup> Auk, Vol. XXIV, p. 349.

<sup>3</sup> Widmann, Prelim. Cat. Birds Mo., p. 142.

3, I saw a pair of these birds on the edge of a small apple orchard in a meadow in the valley of the Little Black River at Grandin, Carter Co. The female was secured (No. 1583, ♀, Coll. of L. B. and E. S. W.) and was identified as belonging to this subspecies by Dr. J. A. Allen, Dr. J. Dwight, Jr., and Mr. H. C. Oberholser. This is the first Alder Flycatcher to be recorded from Missouri.

(In recording this bird in 'The Auk,' Vol. XXIV, p. 349, I inadvertently used the name 'Traills' Flycatcher, though designating it under its proper subspecific name.)

\*46. *Empidonax minimus*. LEAST FLYCATCHER.—Not common. First seen May 8, and last seen May 17. Shannon Co.

\*47. *Otocoris alpestris praticola*. PRAIRIE HORNED LARK.—Several pairs were breeding in the meadows about Eudy, Shannon Co. The condition of the breast and belly of a female secured March 23 proved that breeding had already begun at that time.

\*48. *Cyanocitta cristata*. BLUE JAY.—Common. They were abundant in Shannon Co. from April 28 to May 4 inclusive, flying about in large flocks.

49. *Corvus brachyrhynchos*. AMERICAN CROW.—Not common.

50. *Dolichonyx oryzivorus*. BOBOLINK.—Rare, but this was to be expected considering the scarcity of open fields. Two were seen May 4 in the meadows at Eudy, Shannon Co., and several at Grandin, Carter Co., May 16 and 21.

\*51. *Molothrus ater*. COWBIRD.—Common. First seen in Shannon Co., March 19. In Carter Co. I found a nest of the Bachman Sparrow on May 27, which contained, besides two of its own eggs, three of the Cowbird, all evidently laid by the same bird.

52. *Agelaius phoeniceus*. RED-WINGED BLACKBIRD.—I saw this bird in the valley of Jack's Fork on my way to and from camp, March 10 and May 15, and they were probably common in the valleys of this and the Current River.

At Grandin they were common in wet meadows.

\*53. *Sturnella magna*. MEADOWLARK.—Fairly common in clearings.

\*54. *Icterus spurius*. ORCHARD ORIOLE.—Common about clearings. First seen May 9.

55. *Icterus galbula*. BALTIMORE ORIOLE.—Rare. Only one specimen seen in Shannon Co., May 4. None seen at Grandin.

56. *Euphagus carolinus*. RUSTY BLACKBIRD.—A large flock was seen March 19. Shannon County.

57. *Quiscalus quiscula æneus*. BRONZED GRACKLE.—Fairly common near clearings in Shannon Co. None seen at Grandin.

\*58. *Carpodacus purpureus*. PURPLE FINCH.—The Purple Finch was already present on my arrival at Grandin March 8, and in Shannon Co. March 10, and were to be seen in large flocks till April 25, on which day the last bird was noted.

\*59. *Loxia curvirostra minor*. AMERICAN CROSSBILL.<sup>1</sup>—Small flocks

<sup>1</sup> Widmann, Prelim. Cat. Birds Mo., p. 168.

were seen in Shannon Co. every few days from April 3 to May 1 inclusive.

\*60. *Loxia leucoptera*. WHITE-WINGED CROSSBILL.<sup>1, 2</sup> — On April 18 I secured a female White-winged Crossbill that was feeding on the ground in company with two American Crossbills, both females. This is the first one to be recorded from Missouri, and, as a record, is all the more surprising because of having been taken so near the southern border, while it has not yet been recorded from the northern part of the State.

61. *Astragalinus tristis*. AMERICAN GOLDFINCH. — Goldfinches were fairly common, though varying exceedingly in numbers, throughout my stay in the Ozarks.

\*62. *Spinus pinus*. PINE SISKIN.<sup>3</sup> — The first siskins were seen in Shannon Co. on April 28, 29 and 30. Another flock was seen May 13. At Grandin, Carter Co., I found small flocks on May 16, 17 and 21, and on June 4, when in the pine woods near the northern border of the county, a siskin flew by me so close that I could not have been mistaken in my identification.

63. *Passer domesticus*. ENGLISH SPARROW. — Even in the heart of the pine and oak woods, wherever there was a clearing with an occupied log cabin, this omnipresent bird was to be found.

\*64. *Poocetes gramineus*. VESPER SPARROW.<sup>4</sup> — A common transient in meadows in the valley bottoms and about Eudy, Shannon Co. The first were seen March 19 and last on April 7.

\*65. *Passerculus sandwichensis savanna*. SAVANNA SPARROW.<sup>5</sup> — Two were found April 25, and on April 28, May 4 and May 13, I found them common on the meadows about Eudy, Shannon Co. A Savanna Sparrow taken March 22 (the date given by Mr. Widmann,<sup>5</sup> March 19, is an error), proved to belong to the following subspecies.

\*66. *Passerculus sandwichensis alaudinus*. WESTERN SAVANNA SPARROW.<sup>6</sup> — On March 22 I found a flock of sparrows in a narrow meadow in Spring Valley containing three or four Savanna Sparrows and a number of Vesper Sparrows. One of the former was secured and was identified by Mr. H. C. Oberholser as belonging to this subspecies (No. 1400, ♂, Coll. of L. B. and E. S. W.).

This specimen is the first recorded from Missouri.

\*67. *Coturniculus savannarum passerinus*. GRASSHOPPER SPARROW.<sup>7</sup> — Several were seen and one secured in a narrow meadow in Black Valley, Shannon Co., on March 19. This appears to be the earliest date on record for Missouri. Mr. Widmann states<sup>8</sup> that the first arrive in southern

<sup>1</sup> Widmann, Prelim. Cat. Birds Mo., p. 169.

<sup>2</sup> Auk, Vol. XXIV, p. 349.

<sup>3</sup> Widmann, Prelim. Cat. Birds Mo., p. 171.

<sup>4</sup> *Ibid.*, p. 175.

<sup>5</sup> *Ibid.*, p. 176.

<sup>6</sup> *Ibid.*, p. 176.

<sup>7</sup> *Ibid.*, p. 177.

<sup>8</sup> *Ibid.*, p. 177.

Missouri about the middle of April. The day and night preceding (March 18) had been exceptionally warm, and on the morning of the 19th I found the woods and valleys full of birds. The Fringillidæ were most in evidence and among them several new arrivals (Grasshopper, Henslow, Vesper, Bachman's, and Swamp Sparrows). No more Grasshopper Sparrows were seen till April 14 and 17, on each of which days I saw and secured one specimen. On the 25th of April I found them common in the meadows at Eudy, and they were still to be found there May 13. I also found them at Grandin, Carter Co. (June 3), and believe they breed there.

After comparing the four specimens secured in Missouri with others secured in Connecticut I came to the conclusion that they were "rather intermediates, but nearer *bimaculatus*," and they were thus recorded by Mr. Widmann;<sup>1</sup> but Mr. H. C. Oberholser has since examined and identified these specimens as the eastern form (*C. s. passerinus*).

\*68. **Ammodramus henslowi.** HENSLow SPARROW.—One was secured March 19 (the earliest date on record for Missouri)<sup>2</sup> from a flock of several Grasshopper, Vesper and Field Sparrows on the edge of a corn field in Black Valley, Shannon Co. Another was seen May 4 in the Eudy meadows.

\*69. **Chondestes grammacus.** LARK SPARROW.—Evidently an uncommon bird in this region. One was seen and secured in a freshly plowed field at Eudy, Shannon Co., on May 13, and I found it again at Grandin, Carter Co., on May 16 and 17, one each day.

\*70. **Zonotrichia leucophrys.** WHITE-CROWNED SPARROW.—Only met with twice, May 11 and 13; Shannon Co.

\*71. **Zonotrichia albicollis.** WHITE-THROATED SPARROW.—Present on my arrival in Shannon Co., March 10, and common throughout my stay there. At Grandin, Carter Co., the last were seen May 17.

\*72. **Spizella socialis.** CHIPPING SPARROW.—Common. First seen March 12, became common March 19, and abundant from April 9 to 20 when they were to be found everywhere — in the depths of the pine woods on top of the plateau, and in the open stretches in the valley bottoms.

\*73. **Spizella pusilla.** FIELD SPARROW.—Already present on my arrival in Shannon Co., March 10, on which date I saw one. They became common on March 19. A nest and four eggs were found May 21 at Grandin, Carter Co.

\*74. **Spizella pusilla arenacea.** WESTERN FIELD SPARROW.—Two of the four specimens of Field Sparrows taken in Shannon Co. proved to be of this form. These two specimens were secured March 13 and 19 (No. 1372 and 1392, Coll. of L. B. and E. S. W.), and are the first to be recorded from Missouri.<sup>3</sup> Mr. H. C. Oberholser has confirmed my identification.

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<sup>1</sup> Widmann, Prelim. Cat. Birds Mo., p. 178.

<sup>2</sup> *Ibid.*, p. 178.

<sup>3</sup> *Ibid.*, p. 187.



On March 19, several *S. p. arenacea* were seen in a flock of *S. p. pusilla*, and I found it easy to distinguish them by the conspicuous gray crown-stripe of the former.

\*75. **Junco hyemalis.** SLATE-COLORED JUNCO.—Juncos were present in large numbers on my arrival in Carter Co., March 7, and in Shannon Co. March 10. They were less abundant after April 7, and the last were seen April 27, except for a lone male secured May 21 at Grandin, Carter Co.<sup>1</sup> On examining this latter bird I found that its belly was distended to twice its normal size and was packed solid with a mass of transparent worms, three inches or more long and as thick as a small match, filling up every bit of space in the intestinal cavity. Though able to fly and otherwise in good condition, this load was evidently too much to carry and was the probable explanation of this exceptionally late date.

Dr. Jonathan Dwight, Jr., who is making an exhaustive study of the various races of Juncos of North America, kindly examined the series of thirteen Juncos secured, and divided them into the three races: *hyemalis hyemalis*, *hyemalis connectens*, and *hyemalis montanus*.

Specimens of *J. h. hyemalis*, taken from one flock March 11 in Shannon County, were very dark birds and typical of *J. h. hyemalis* from Alaska. Others taken later in the month and in April were similar to eastern representatives of the race.

\*76. **Junco hyemalis connectens.** SCHUFFELDT'S JUNCO.—A male Junco collected at Hunter, Carter Co., March 7, and a female collected in Shannon Co. March 17, were assigned by Dr. Dwight to this form.

\*77. **Junco montanus.** MONTANA JUNCO.<sup>2</sup>—A female (No. 1364, ♀, Coll. L. B. and E. S. W.), secured March 11 from a large flock of Juncos in Shannon Co. was identified by both Dr. Dwight and Mr. H. C. Oberholser as of this species.

This is the first Montana Junco to be recorded from Missouri.

\*78. **Peucæa æstivalis bachmanii.** BACHMAN'S SPARROW.<sup>3,4</sup>—On March 19 I saw and secured the first Bachman's Sparrow, and on and after April 6 found it common throughout the mixed pine and oak woods of Shannon Co. They seemed to prefer stands of mixed pine and oak to either pure pine or pure oak.

In Carter Co. I found it only four times (May 17, 24, 27 and June 4), but the fact that almost all the pine had been cut may explain their rarity here. On May 27, in the virgin pine and oak forest near the northern border of the county (Twp. 27, R. 2 East), I flushed a Bachman's Sparrow from a nest containing two of her own eggs and three of the Cowbird—incubation far advanced.<sup>5, 6</sup> This find was the first conclusive proof of

<sup>1</sup> Widmann, Prelim. Cat. Birds Mo., p. 188.

<sup>2</sup> *Ibid.*, p. 189.

<sup>3</sup> *Ibid.*, p. 189.

<sup>4</sup> Auk, Vol. XXIV, p. 349.

<sup>5</sup> Widmann, Prelim. Cat. Birds Mo., p. 189.

<sup>6</sup> Auk, Vol. XXIV, p. 349.

its breeding in the State. The nest was on the ground in a small clump of long grass and New Jersey tea (*Ceanothus americanus*), and close to the fallen top of a recently cut pine. These birds were found almost invariably near or in the tops of dead and down trees.

\*79. *Melospiza cinerea melodia*. SONG SPARROW.—The Song Sparrow was a rare bird in Shannon Co., and not seen at all in Carter Co. I noted it only six times (March 10, 13, 17, 19, 30, and April 14). On March 19, the day sparrows of all kinds were so abundant, it was fairly common, but on the other dates only from one to three or four were noted.

\*80. *Melospiza lincolni*. LINCOLN'S SPARROW.—These birds were probably fairly common though not many were seen. They confined themselves to the dense patches of low shrubs in the valley bottoms where it was difficult to see them and from which it was almost impossible to flush them. I met with it first April 14 in Shannon Co., and the last one was seen May 20 in Carter Co.

\*81. *Melospiza georgiana*. SWAMP SPARROW.<sup>1</sup>—Not common. First seen March 19; last seen May 13; Shannon Co.

\*82. *Passerella iliaca*. FOX SPARROW.—Fox Sparrows were very abundant at Hunter, Carter Co., March 7. The oak woods by the railroad station was alive with them. In Shannon Co. they were common until March 24 when they left except for one lone specimen seen April 6.

\*83. *Pipilo erythrophthalmus*. TOWHEE.—Already present on my arrival at Grandin March 8, and Shannon Co. March 10, and was fairly common throughout my stay.

\*84. *Cardinalis cardinalis*. CARDINAL.—Very common. Nests with eggs found from April 29 to May 25 inclusive, and a nearly full grown young bird was seen May 5.

\*85. *Zamelodia ludoviciana*. ROSE-BREADED GROSEBEAK.—Rare. A male was seen May 2 and a female May 8, Shannon Co. At Grandin, I saw on May 20 what I was confident was a female Rose-breast high up in a tree, but as they rarely breed so far south, this record cannot be accepted as positive.

\*86. *Passerina cyanea*. INDIGO BUNTING.—First seen April 28 and became common May 8, remaining so throughout my stay.

\*87. *Spiza americana*. DICKCISSEL.—None were seen in the vicinity of our camp, but several were found May 15 in a cultivated meadow near Winona, Shannon Co. At Grandin they were common in meadows in the valley of the Little Black River. A nest with 5 fresh eggs was found June 3.

\*88. *Piranga erythromelas*. SCARLET TANAGER.—Arrived in large numbers April 25 and was fairly common thereafter.

\*89. *Piranga rubra*. SUMMER TANAGER.—First seen April 26 and became common on April 29. A nest with four eggs was found in Carter Co. June 4.

<sup>1</sup> Widmann, Prelim. Cat. Birds Mo., 192.

\*90. *Progne subis*. PURPLE MARTIN.— First seen March 18. There was a small colony at Eudy, Shannon Co. At Grandin they were common, breeding in bird houses erected for their use.

91. *Hirundo erythrogaster*. BARN SWALLOW.— A flock of 12 Barn Swallows flew over me in Shannon Co., May 7, and several were seen flying over Jack's Fork May 15. None was seen in Carter Co.

92. *Iridoprocne bicolor*. TREE SWALLOW.— Rare. On May 4 I saw a lone Tree Swallow flying about a small pool of water in the meadows at Eudy, Shannon Co., and on May 15 several over Jack's Fork.

\*93. *Stelgidopteryx serripennis*. ROUGH-WINGED SWALLOW.— Rough-winged Swallows were common along the Current River, in Shannon Co., April 20 and 21, over Jack's Fork May 15 and along the Current River in Carter Co. May 17.

94. *Bombycilla cedrorum*. CEDAR WAXWING.— None was seen in Shannon Co. At Grandin small flocks were seen May 20 and 24.

\*95. *Lanius ludovicianus migrans*. MIGRANT SHRIKE.— The only Migrant Shrikes met with were two specimens that I secured March 18 in clearings in Black Valley, Shannon Co.

96. *Vireosylva olivaceus*. RED-EYED VIREO.— Common. First seen April 29.

\*97. *Vireosylva philadelphicus*. PHILADELPHIA VIREO.<sup>1</sup>— The first and only Philadelphia Vireo seen in Shannon Co., was one secured May 9.

At Grandin, Carter Co., I took two on May 17 and saw two more May 24, securing one.

\*98. *Lanivireo flavifrons*. YELLOW-THROATED VIREO.— First one was seen April 14. They were common from April 25 to 30 inclusive, but from then until I left Shannon Co. (May 15) it was only occasionally met with. None seen in Carter Co.

99. *Lanivireo solitarius*. BLUE-HEADED VIREO.— Only one specimen was seen May 9; Shannon Co.

\*100. *Vireo noveboracensis*. WHITE-EYED VIREO.— Arrived April 28 in Shannon Co., and were common thereafter. A nest with 4 fresh eggs and one of a Cowbird was found May 25 at Grandin, Carter Co.

101. *Mniotilta varia*. BLACK AND WHITE WARBLER.— This was the first of the warblers to appear in Shannon Co., arriving March 23.

It was fairly common throughout my stay in both counties.

\*102. *Helminthus vermivorus*. WORM-EATING WARBLER.<sup>2</sup>— A common bird in Shannon Co., arriving April 25. At Grandin, only one was seen — May 30.

\*103. *Helminthophila bachmani*. BACHMAN'S WARBLER.<sup>3, 4</sup>— I was fortunate enough to meet with this interesting bird on two different occa-

<sup>1</sup> Widmann, Prelim. Cat. Birds Mo., p. 209.

<sup>2</sup> *Ibid.*, p. 215.

<sup>3</sup> *Ibid.*, p. 215.

<sup>4</sup> Ank. Vol. XXIV, p. 348.

sions, securing a male in Shannon Co. May 2, and another male at Grandin, Carter Co., May 23 (Nos. 1499 and 1575, Coll. L. B. and E. S. W.) There can be but little question that both these birds were on their breeding grounds, for the Bachman's Warbler is one of our earliest warbler migrants, arriving in southern United States in March and is on its breeding grounds in Dunklin Co., Mo., by the middle of April. Nests with eggs were found by Mr. O. Widmann in Dunklin Co. as early as May 14 (1898). This extends the range of Bachman's Warbler about 100 miles to the northwest. The most surprising thing, especially in the case of the Shannon Co. bird, was that they should have been found in a locality so totally different in character from that of their previously known breeding haunts. The Shannon Co. bird was in some low bushes in the dry stream bed of Spring Valley (Twp. 29, R. 5, Section 5). The Grandin bird was in a dense, wooded thicket in the valley of the Little Black River — a more suitable situation, though still in a hilly and comparatively dry country. The latter bird was like a will-o'-the-wisp, leading me on, singing just ahead of me and keeping out of sight except for an occasional fleeting glimpse. Then he would stop singing for ten or fifteen minutes at a time, only to begin again back where I had first heard him. Once he suddenly appeared in the lower branches of a small tree within fifteen feet of me, and seemed utterly unmindful of my presence though I was in full view, foraging busily and silently among the leaves near the ends of the branches. Though he spent most of his time feeding and singing in shrubs and bushes, he would occasionally mount well up into the branches of some of the taller trees and sit quietly singing. After I had spent over two hours there patiently watching and waiting, I shot him while he was pouring out his song about 35 feet up in an oak. The song to my ear is very similar to that of the Worm-eating Warbler. I felt confident that I heard another male singing at the same time, but as none were seen or heard on several later visits to the same locality, I may have been mistaken.

\*104. *Helminthophila pinus*. BLUE-WINGED WARBLER.—Common. The first one was seen at the Current River, Shannon Co., April 20, and they appeared in the vicinity of our camp April 24.

\*105. *Helminthophila leucobronchialis*. BREWSTER'S WARBLER.<sup>1, 2</sup>—On May 12 I secured in Shannon Co. an absolutely typical specimen of the Brewster's Warbler (No. 1531, ♂, Coll. L. B. and E. S. W.). The entire underparts are pure white without even a suggestion of any yellow wash. The back is bluish gray slightly tinged in the middle with greenish. A single, broad wing-patch of canary yellow. Its song was similar to that of *H. chrysoptera*. This is the first Brewster's Warbler to be recorded from Missouri or from west of the Mississippi River.

\*106. *Helminthophila rubricapilla*. NASHVILLE WARBLER.—Arrived in Shannon Co. April 28 and were fairly common. The last were seen May 17 at Grandin, Carter Co.

<sup>1</sup> Auk, Vol. XXIV, p. 348.

<sup>2</sup> Widmann, Prelim. Cat. Birds Mo., p. 216.

\*107. *Helminthophila peregrina*. TENNESSEE WARBLER.— Arrived April 25, became common April 29, and from May 9 till I left Shannon Co. (May 15) they were by far the most abundant of all the warbler family. I found them abundant at Grandin, Carter Co., May 16 and 17 and the last was seen May 25. On May 2 I secured a male Tennessee Warbler in Shannon Co., which had a number of coppery-chestnut feathers in its crown, similar to those of a Nashville Warbler. In all other respects it was a typical Tennessee Warbler (No. 1500, ♂, Coll. L. B. and E. S. W.).<sup>1</sup>

\*108. *Compsothlypis americana ramalinæ*. WESTERN PARULA WARBLER.— First seen April 20, when I found it abundant in the valley of the Current River, Shannon Co. In the vicinity of our camp, I saw it only 3 times; one on April 23, several April 24, and one April 26. At Grandin, it was a rather rare summer resident. The three specimens secured April 20, May 17 and May 30 were identified by Mr. H. C. Oberholser as belonging to this form.

\*109. *Dendroica tigrina*. CAPE MAY WARBLER.<sup>2</sup>— A single individual was seen and secured May 10 and another May 15, both of them near Alley, Shannon Co.

110. *Dendroica æstiva*. YELLOW WARBLER.— First seen April 25, and became fairly common on and after May 3.

\*111. *Dendroica coronata*. MYRTLE WARBLER.— Single individuals were seen at Grandin, Carter Co., March 8, and in Shannon Co., March 21 and April 4. The first two and possibly all three may have been winter residents, for the transients did not appear till April 13. They were common until May 4 in Shannon Co., and the last were seen May 17 at Grandin.

112. *Dendroica maculosa*. MAGNOLIA WARBLER.— In Shannon Co. the Magnolia Warbler appeared to be a rare migrant, for I met with it only twice — May 9 and 15. Mr. W. G. Savage reports it as fairly common at Monteer. At Grandin, Carter Co., I found it May 16 and 17.

\*113. *Dendroica cerulea*. CERULEAN WARBLER.— Arrived April 27 and was fairly common in Shannon Co. In Carter Co. I found it in small numbers in the river valleys.

114. *Dendroica pensylvanica*. CHESTNUT-SIDED WARBLER.— Not common. Single individuals were seen in Shannon Co., May 9, 10, 11 and several May 13. At Grandin several were seen May 16 and 17.

\*115. *Dendroica castanea*. BAY-BREASTED WARBLER.<sup>3</sup>— None were seen in Shannon Co. (See supplementary list.) At Grandin I found it May 16, 17 and 21, one each day.

\*116. *Dendroica striata*. BLACK-POLL WARBLER.— A common transient. Arrived, Shannon Co., May 9. The last were seen at Grandin May 23.

<sup>1</sup> Auk, Vol. XXIV, p. 348

<sup>2</sup> Widmann, Prelim. Cat. Birds Mo., p. 221.

<sup>3</sup> *Ibid.*, p. 227.

117. *Dendroica blackburniæ*. BLACKBURNIAN WARBLER.<sup>1</sup>—A rare migrant. One was seen in Shannon Co. May 13, and at Grandin one May 16, and several May 17.

\*118. *Dendroica dominica albilora*. SYCAMORE WARBLER.<sup>2</sup>—Not common in Shannon Co. Arrived March 28. They were fairly common in Carter Co. These birds were invariably found high up in pines on top of the ridges. None were seen or heard in the valleys, even where there were plenty of sycamores.

119. *Dendroica virens*. BLACK-THROATED GREEN WARBLER.—Not common. Single birds were seen in Shannon Co. on May 1, 4 and 10 and several on May 12 and 13. At Grandin one was seen May 17.

\*120. *Dendroica vigorsii*. PINE WARBLER.<sup>3, 4</sup>—The Pine Warbler was already present on my arrival at Grandin March 8, and in Shannon Co. March 10. It was common throughout my stay in Shannon Co. in the pine woods. I found no nests, but saw the birds gathering nesting material and carrying it up into the pines several times in the latter part of March, and on April 25 a nestling was secured, too young to fly, which had fallen from its nest and was being fed on the ground by its parents. I also found a number of full-grown young birds in nestling plumage before the middle of May, so there can be no question that it is a common summer resident in this region.

\*121. *Dendroica discolor*. PRAIRIE WARBLER.—Arrived April 24 in Shannon Co., and became common on and after April 26. Common at Grandin.

122. *Seiurus aurocapillus*. OVENBIRD.—Arrived April 19 and became abundant April 26. Common in both Shannon and Carter Cos.

\*123. *Seiurus noveboracensis notabilis*. GRINNELL'S WATERTHRUSH.<sup>5</sup>—A common transient. The first were seen in Shannon Co. May 9, and the last (one) at Grandin May 24. The three specimens secured May 9, 12 and 21, were identified by Mr. H. C. Oberholser as belonging to this subspecies.

\*124. *Seiurus motacilla*. LOUISIANA WATERTHRUSH.—First seen March 21.<sup>6</sup> I found it common in the Current River valley April 19 and 20. None were seen after May 2, though they would probably have been found along the Current River had I revisited it. At Grandin I saw none at all.

\*125. *Oporornis formosa*. KENTUCKY WARBLER.—Arrived April 28 and was common thereafter.

\*126. *Oporornis philadelphia*. MOURNING WARBLER.<sup>7</sup>—A specimen secured May 13 at Eudy, Shannon Co., was the only one seen.

<sup>1</sup> Widmann, Prelim. Cat. Birds Mo., p. 229.

<sup>2</sup> *Ibid.*, p. 230.

<sup>3</sup> *Ibid.*, p. 231.

<sup>4</sup> Auk, Vol. XXIV, p. 348.

<sup>5</sup> Widmann, Prelim. Cat. Birds Mo., p. 234.

<sup>6</sup> *Ibid.*, p. 235.

<sup>7</sup> *Ibid.*, p. 237.



\*127. *Geothlypis trichas brachidactyla*. NORTHERN YELLOW-THROAT.—Arrived April 29. Was rather rare in Shannon Co., but common at Grandin.

\*128. *Icteria virens*. YELLOW-BREASTED CHAT.—Arrived April 27 and became very common on and after May 3.

\*129. *Wilsonia mitrata*. HOODED WARBLER.—Rare. Only met with twice in Shannon Co.—April 29 and May 15 (Jack's Fork). None were seen at Grandin.

\*130. *Wilsonia pusilla*. WILSON'S WARBLER.—A specimen secured May 9 was the only one seen in Shannon Co.

At Grandin they were fairly common from May 16 to 20 inclusive.

131. *Wilsonia canadensis*. CANADIAN WARBLER.—None were seen in Shannon Co., possibly because I left (May 15) before they arrived there (see supplementary list). At Grandin I found them common from May 16 to 20 inclusive.

132. *Setophaga ruticilla*. AMERICAN REDSTART.—None were seen in Shannon Co. till May 12, and thereafter but two or three each day until my departure, May 15. At Grandin they were common on May 16 and 17, but none were seen thereafter, so it would appear that they do not breed in this region.

\*133. *Mimus polyglottos*. MOCKINGBIRD.—The wilds of the Ozarks had evidently no attraction for this bird, for I saw none till I reached Winona, Shannon Co., where I found them common May 15 and 16. At Grandin only one Mockingbird was seen — May 17.

134. *Dumetella carolinensis*. CATBIRD.—Rare. In Shannon Co. one was seen April 30 and another May 4. At Grandin several were noted May 17.

135. *Toxostoma rufum*. BROWN THRASHER.—First one was seen March 31. They were not common, and were seen very irregularly in Shannon Co. At Grandin it was fairly common.

\*136. *Thryothorus ludovicianus*. CAROLINA WREN.—Resident, but not very common in Shannon Co., confining themselves to the larger valleys. They were fairly common at Grandin.

\*137. *Thryomanes bewickii*. BEWICK'S WREN.—First one was seen in Shannon Co., March 17. They were common from March 23 to March 30 inclusive all through the forest, but after that were rarely seen and then about houses only. At Grandin they were common.

138. *Troglodytes aëdon aztecus*. WESTERN HOUSE WREN.—Rare. One was seen in Shannon Co. April 25 and another April 28. Unfortunately neither specimen was secured, but as Missouri lies within the range of the western form, I have assigned the above birds to this subspecies.

\*139. *Nannus hiemalis*. WINTER WREN.—Rare. Two were seen March 23, one April 3,<sup>1</sup> two April 10, and one April 21, all in Shannon Co.

\*140. *Cistothorus stellaris*. SHORT-BILLED MARSH WREN.<sup>2</sup> — On May

<sup>1</sup> Widmann, Prelim. Cat. Birds Mo., p. 250.

<sup>2</sup> *Ibid.*, p. 251.

14 I secured a female Short-billed Marsh Wren in some witch-hazel bushes in the dry creek-bed of Spring Valley, Shannon Co. Considering the fact that this was in a dry, heavily-wooded and mountainous region with no marshes within many miles, this record is very surprising.

\*141. *Telmatodytes palustris iliacus*. PRAIRIE MARSH WREN.<sup>1</sup> — On May 9, in Shannon Co., I saw three Prairie Marsh Wrens in as many different places and several miles apart, securing two of them. Finding these birds here was as surprising as in the case of the Short-billed Marsh Wren, and for the same reason.

142. *Certhia familiaris americana*. BROWN CREEPER. — Probably a winter resident in Shannon Co. I found it March 11 and it was fairly common till April 24 when the last were seen.

143. *Sitta carolinensis*. WHITE-BREASTED NUTHATCH. — A common resident.

\*144. *Sitta canadensis*. RED-BREASTED NUTHATCH.<sup>2</sup> — Probably a winter resident in the pine region of Shannon Co., but not common. I found it March 11, 14, 24, 30; April 6, 17, 27; May 1, 9 and 12. Shannon Co.

\*145. *Sitta pusilla*. BROWN-HEADED NUTHATCH.<sup>3,4</sup> — On March 19 I secured a pair of Brown-headed Nuthatches in some pines on the edge of a clearing in Black Valley, Shannon Co. The female was flying back and forth to an old, dead pine in a cornfield and seemed much disturbed after I had shot her mate. The only other record for this bird in Missouri is a bird seen by Mr. O. Widmann in St. Louis, May 6, 1878 and reported in Nut. Bull., Vol. V, p. 191.

\*146. *Bæolophus bicolor*. TUFTED TITMOUSE. — A common resident.

\*147. *Penthestes carolinensis*. CAROLINA CHICKADEE. — A common resident.

\*148. *Regulus satrapa*. GOLDEN-CROWNED KINGLET. — Common until April 23, when the last were seen. Found at Grandin March 8.

\*149. *Regulus calendula*. RUBY-CROWNED KINGLET. — A common transient in Shannon Co. First seen March 19,<sup>5</sup> and last seen May 4.

\*150. *Polioptila cærulea*. BLUE-GRAY GNATCATCHER. — Common in Shannon Co., arriving April 12. They were abundant throughout the forest from May 4 to 7 inclusive.

Fairly common at Grandin.

151. *Hylocichla mustelina*. WOOD THRUSH. — Common. Arrived in Shannon Co. April 25.

\*152. *Hylocichla aliciae*. GRAY-CHEEKED THRUSH. — Common in Shannon Co. April 28 to May 13 inclusive.

<sup>1</sup> Widmann, Prelim. Cat. Birds Mo., p. 252.

<sup>2</sup> *Ibid.*, p. 254.

<sup>3</sup> Auk, Vol. XXIV, p. 349.

<sup>4</sup> Widmann, Prelim. Cat. Birds Mo., p. 255.

<sup>5</sup> *Ibid.*, p. 258.

\*153. *Hylocichla ustulata swainsonii*. OLIVE-BACKED THRUSH.—A common transient. Arrived April 29 in Shannon Co., and was fairly common till May 25<sup>1</sup> on which date the last were seen at Grandin.

\*154. *Hylocichla guttata pallasii*. HERMIT THRUSH.<sup>2</sup>—Not common. First one was seen March 26, and last, April 27. Shannon Co.

155. *Planesticus migratorius*. AMERICAN ROBIN.—Already present on my arrival in Carter Co. March 7, and in Shannon Co. March 10. The Robin was common as a transient in March, but rare as a summer resident in both Shannon and Carter Cos. I found a nest with 4 eggs in an apple orchard at Eudy, Shannon Co., May 13.

156. *Sialia sialis*. BLUEBIRD.—Already present on my arrival in Carter Co. March 7, and Shannon Co. March 10, and was fairly common about clearings.

### *Supplementary List.*

The following are the additional records for Shannon County kindly furnished me by Mr. W. G. Savage. Those in brackets are species which are noted in the foregoing list as found by me in Carter County, but not in Shannon.

157. *Podilymbus podiceps*. PIED-BILLED GREBE.—Rather rare.

158. *Larus argentatus*. HERRING GULL.—Rare. Observed twice in four years.

159. *Pelecanus erythrorhynchos*. AMERICAN WHITE PELICAN.—Rare.

160. *Anas boschas*. MALLARD.—Fairly common.

161. *Nettion carolinensis*. GREEN-WINGED TEAL.—Fairly common.

162. *Dafila acuta*. PINTAIL.—Fairly common.

163. *Marila collaris*. RING-NECKED DUCK.—Rare.

164. *Porzana carolina*. SORA.—Rare.

165. *Fulica americana*. AMERICAN COOT.—Rather rare.

166. *Gallinago delicata*. WILSON'S SNIBE.—Rare. Only seen once.

167. *Totanus melanoleucus*. GREATER YELLOW-LEGS.—Rare. Only seen twice.

168. *Bartramia longicauda*. BARTRAMIAN SANDPIPER.—Rare.

169. *Oxyechus vociferus*. KILLDEER.—Rare.

170. *Ictinia mississippiensis*. MISSISSIPPI KITE.—Rare. Observed two or three times in four years.

171. *Circus hudsonius*. MARSH HAWK.—Rather rare. Observed two or three times each year in four years.

172. *Accipiter cooperi*. COOPER'S HAWK.—Tolerably common. Very shy.

<sup>1</sup> Widmann, Prelim. Cat. Birds Mo., p. 263.

<sup>2</sup> *Ibid.*

173. *Buteo borealis harlani*. HARLAN'S HAWK.—Rare. Only observed a few times.

174. *Buteo lineatus*. RED-SHOULDERED HAWK.—Common. Observed mostly in spring and fall.

175. *Buteo swainsoni*. SWAINSON'S HAWK.—Fairly common.

176. *Haliaeetus leucocephalus*. BALD EAGLE.—Rather rare. Observed four or five times a year for four years.

177. *Otus asio*. SCREECH OWL.—Very abundant.

178. *Bubo virginianus*. GREAT HORNED OWL.—Fairly common. Observed in winter only, from ten to twenty times each winter for four years.

[24. *Coccyzus erythrophthalmus*. BLACK-BILLED CUCKOO.]—Rare.

[34. *Caprimulgus carolinensis*. CHUCK-WILLS-WIDOW.] Rare. Only heard twice in four years. (See preceding list.—E. S. W.)

*Phalaenoptilus nuttalli* (?). POOR-WILL (?).—"Am reasonably certain of hearing the Poor-will once." W. G. S.

179. *Nuttallornis borealis*. OLIVE-SIDED FLYCATCHER.—Rather rare. Observed from one to three times each year for four years.

180. *Spizella monticola*. TREE SPARROW.—Rather rare. From 8th to 10th of February of each year for the last three years, have observed from 2 to 8.

181. *Guiraca caerulea*. BLUE GROSBEEK.—Common. Breeding quite abundantly.

182. *Petrochelidon lunifrons*. CLIFF SWALLOW.—Rather rare. Only observed in spring and fall.

183. *Riparia riparia*. BANK SWALLOW.—Rare. Only identified two or three times in four years.

[94. *Bombycilla cedrorum*. CEDAR WAXWING.]—Fairly common. May be looked for any time of year in small flocks, except in June and July.

184. *Vireosylva gilvus*. WARBLING VIREO.—Very rare. Only heard once.

185. *Vireo belli*. BELL'S VIREO.—Rare. Only observed a few times here.

186. *Protonotaria citrea*. PROTHONOTARY WARBLER.—Rather rare. Observed three or four times in four years.

187. *Helminthophila chrysoptera*. GOLDEN-WINGED WARBLER.—Rare.

[115. *Dendroica castanea*. BAY-BREASTED WARBLER.]—Rather rare.

188. *Dendroica palmarum*. PALM WARBLER.—Rare. Only observed two or three times here in four years.

[131. *Wilsonia canadensis*. CANADIAN WARBLER.]—Rather rare. Observed several times in four years. Not seen in fall.

189. *Hylocichla fuscescens*. WILSON'S THRUSH.—Rare. Only observed two or three times. (This may have been the western form—the Willow Thrush [*H. f. salicicola*], as Missouri must lie within the range of the latter.—E. S. W.)